

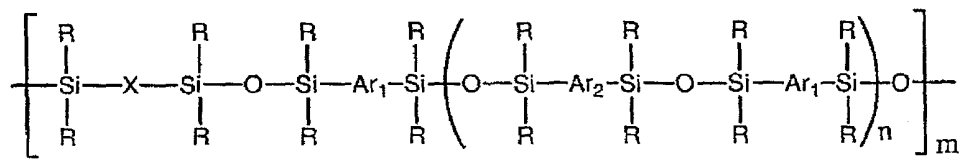
PATENT APPLICATION
Navy Case No.: 82,942

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1-6. (cancelled)

7. (original): A precursor comprising the formula:



wherein $n \geq 0$;

wherein n is an average value obtained by averaging all repeating units of the precursor;

wherein $m \geq 1$;

wherein X is a divalent group containing one or more acetylenic groups;

wherein Ar_1 and Ar_2 are independently selected aromatic groups; and

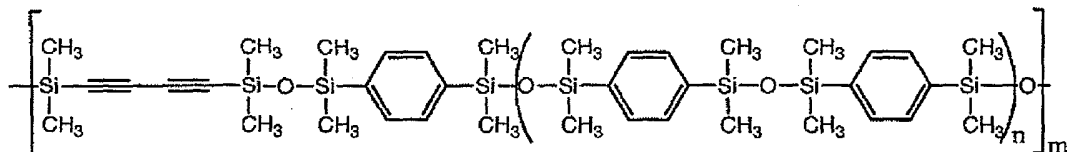
wherein each R is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof.

8. (currently amended): The precursor of claim 7, wherein X is 1,4-butadiyne 1,4-butadiynylene.
9. (currently amended): The precursor of claim 7, wherein one or more of the Ar_1 and Ar_2 functional groups is phenylene.
10. (currently amended): The precursor of claim 7, wherein one or more of the R functional groups is $-\text{CH}_3$.

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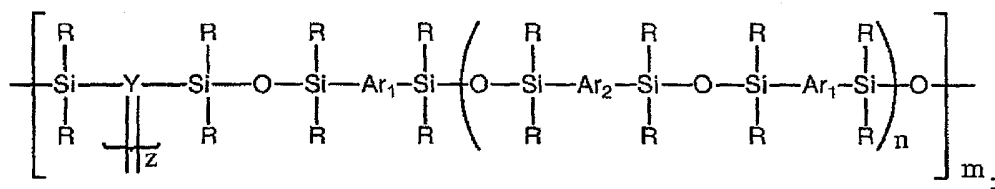
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11. (original): The precursor of claim 7, wherein the precursor comprises the formula:



12. (original): The precursor of claim 11, wherein n is selected from the group consisting of 1, 2, 3, and 4.

13. (currently amended): A networked polymer comprising the formula:



wherein $n \geq 0$;

wherein n is an average value obtained by averaging all repeating units of the networked polymer;

wherein $m \geq 1$;

wherein Y is a divalent group containing one or more acetylenic groups, one or more ~~ethenyl~~ crosslinks, or both;

wherein z is the ~~crosslink density~~ average number of crosslinks per Y group;

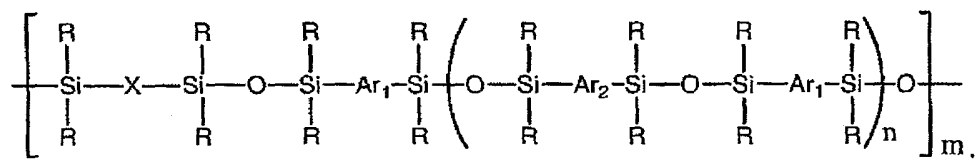
wherein Ar₁ and Ar₂ are independently selected aromatic groups; and

wherein each R is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof.

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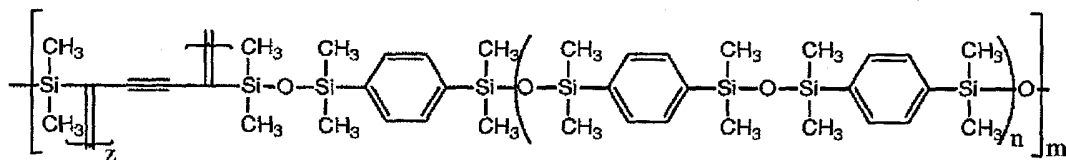
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14. (original): The networked polymer of claim 13, wherein the networked polymer is formed by crosslinking a precursor comprising the formula:

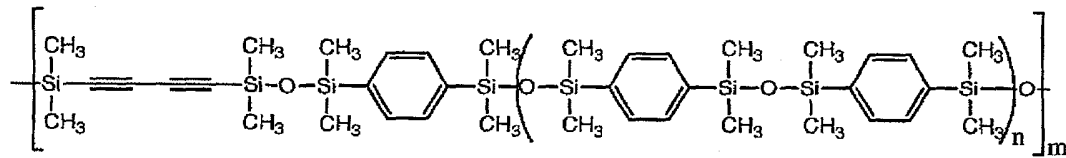


wherein X is a divalent group containing one or more acetylenic groups.

15. (currently amended): The networked polymer of claim 14, wherein X is ~~1,4-butadiyne~~ 1,4-butadiynylene.
16. (currently amended): The networked polymer of claim 13, wherein one or more of the Ar₁ and Ar₂ ~~functional~~ groups is phenylene.
17. (currently amended): The networked polymer of claim 13, wherein one or more of the R ~~functional~~ groups is -CH₃.
18. (original): The networked polymer of claim 13, wherein the networked polymer comprises the formula:



19. (original): The networked polymer of claim 18, wherein the networked polymer is formed by crosslinking a precursor comprising the formula:



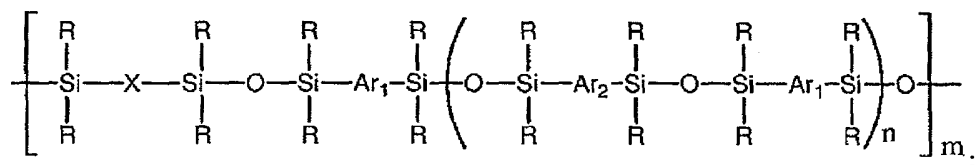
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20. (original): The networked polymer of claim 18, wherein n is selected from the group consisting of 1, 2, 3, and 4.

21-34. (cancelled)

35. (original): A process of preparing a precursor comprising the formula:



wherein $n \geq 0$;

wherein n is an average value obtained by averaging all repeating units of the precursor;

wherein $m \geq 1$;

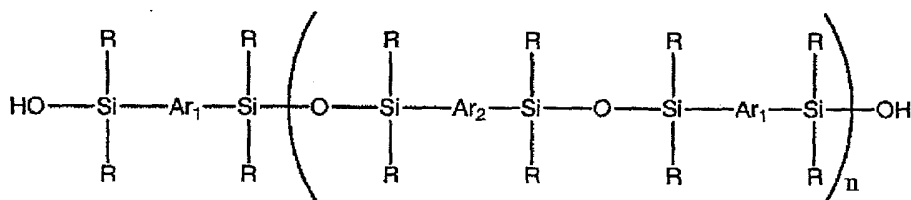
wherein X is a divalent group containing one or more acetylenic groups;

wherein Ar_1 and Ar_2 are independently selected aromatic groups; and

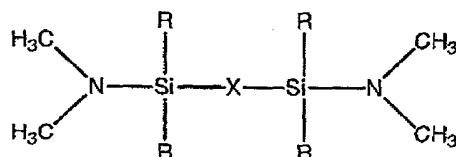
wherein each R is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof;

comprising the step of:

reacting a prepolymer comprising the formula:



with a bis(dimethylaminosilyl)alkyne comprising the formula:

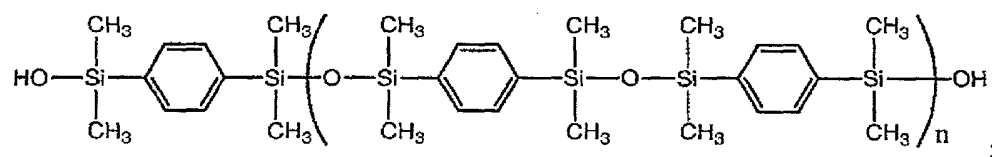


wherein X is a divalent group containing one or more acetylenic groups.

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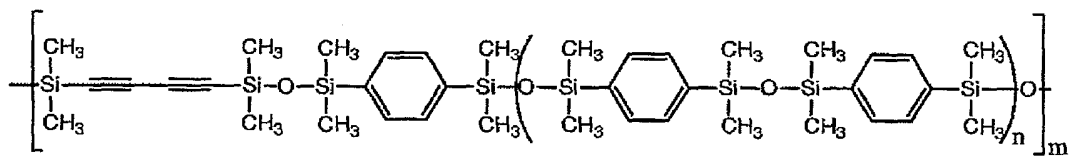
36. (currently amended): The process of claim 35, wherein one or more of the Ar₁ and Ar₂ functional groups is phenylene.
37. (currently amended): The process of claim 35, wherein one or more of the R functional groups is -CH₃.
38. (original): The process of claim 35, wherein the prepolymer comprises the formula:



wherein the bis(dimethylaminosilyl)alkyne is 1,4-

bis(dimethylaminodimethylsilyl)butadiyne; and

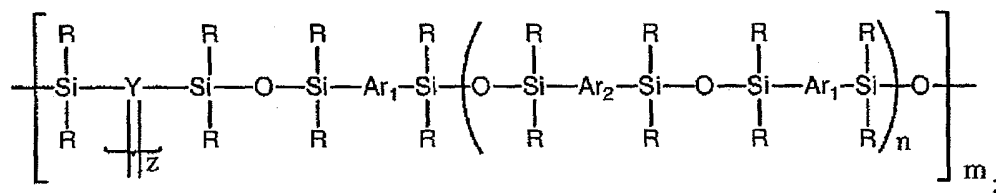
wherein the precursor comprises the formula:



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39. (currently amended): A process of preparing a networked polymer comprising the formula:



wherein $n \geq 0$;

wherein n is an average value obtained by averaging all repeating units of the networked polymer;

wherein $m \geq 1$;

wherein Y is a divalent group containing one or more acetylenic groups, one or more ~~ethenyl~~ crosslinks, or both;

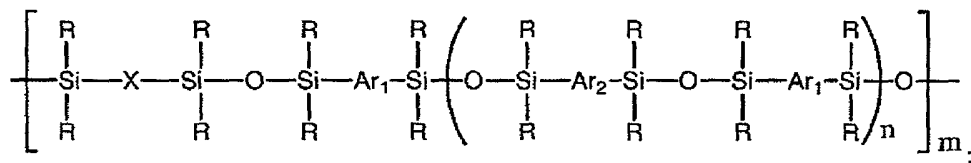
wherein z is the ~~crosslink density~~ average number of crosslinks per Y group;

wherein Ar_1 and Ar_2 are independently selected aromatic groups; and

wherein each R is independently selected from the group consisting of alkyl, aryl, alkylaryl, haloalkyl, haloaryl, and combinations thereof;

comprising the step of:

crosslinking a precursor comprising the formula:



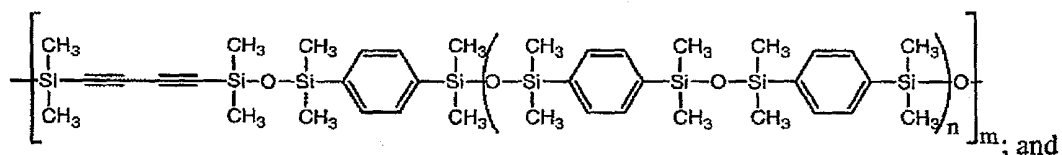
wherein X is a divalent group containing one or more acetylenic groups.

40. (currently amended): The process of claim 39, wherein one or more of the Ar_1 and Ar_2 ~~functional~~ groups is phenylene.
41. (currently amended): The process of claim 39, wherein one or more of the R ~~functional~~ groups is $-\text{CH}_3$.

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42. (original): The process of claim 39, wherein the crosslinking is performed by heating the precursor.
43. (original): The process of claim 42,
 wherein the heating conditions are at least sufficient to initiate crosslinking; and
 wherein the heating conditions do not cause degradation of the precursor or the networked polymer.
44. (original): The process of claim 42, wherein the heating is performed at one or more temperatures from about 100°C to about 500°C.
45. (original): The process of claim 39,
 wherein the precursor comprises the formula:



wherein the networked polymer comprises the formula:

